



# **COMPANY PROFILE**

Company name	Pixie Dust Technologies Co., Ltd.
Listed market	NASDAQ Capital Market ( Ticker PXDT )
CEO, COO	Yoichi Ochiai, Taiichiro Murakami
Mission	We are the serial incubator that provides solutions towards faith and trust
Business summary	Product development and sales using wave control technology
Establishment	May 2017
Location	8th floor, Yaesu Central Tower, Tokyo Midtown Yaesu, 2-2-1 Yaesu, Chuo-ku, Tokyo
Number of employees	80 employees (as of the end of June 2024)
Number of issued shares	14,869,067 shares (as of the end of April 2024)
Market capitalization	\$20 million (as of the end of July 2024)



Tokyo Head Office



Research facility (technotope)

#### **HISTORY**

**Company formation** May 2017

Series A
Approximately 600
million yen
October 2017

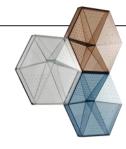
Signed Joint Research Agreement with the University of Tsukuba May 2018 Series B
Approximately
4 billion yen
May 2019

Signed Joint Research Agreement with Tohoku University January 2020

iwasemi released July 2022 Series C Approximately 2.2 billion yen September 2022







SonoRepro released November 2022 VUEVO mic released March 2023 kikippa released April 2023 **Listed on NASDAQ**August 2023
Raised USD 15 million

iwasemi awarded CES 2024 Innovation Award January 2024

KOTOWARI released July 2024

VUEVO Display released August 2024



SonoRepro awarded CES 2023 innovation award January 2023











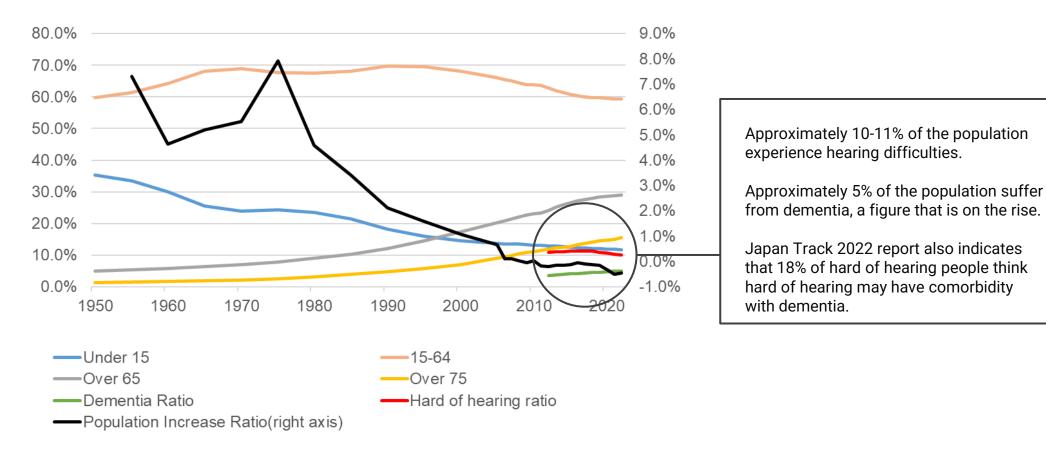


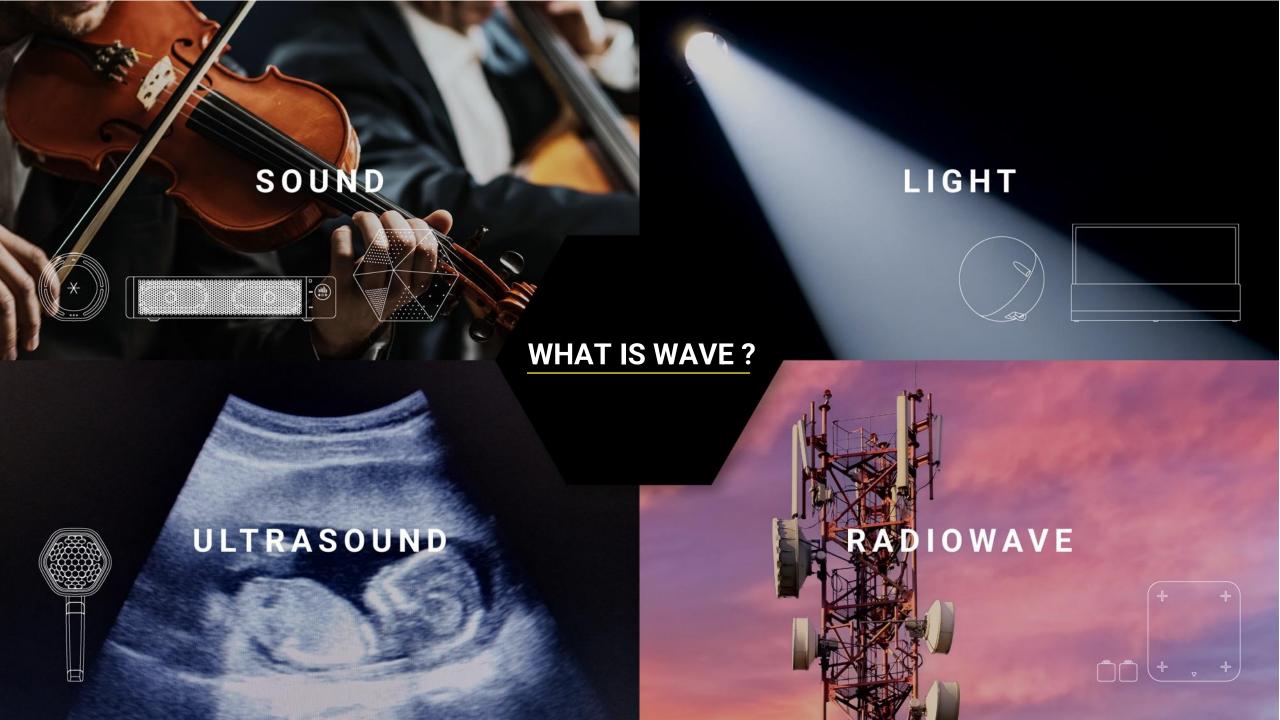


#### SOCIAL ENVIRONMENT WE TACKLE WITH

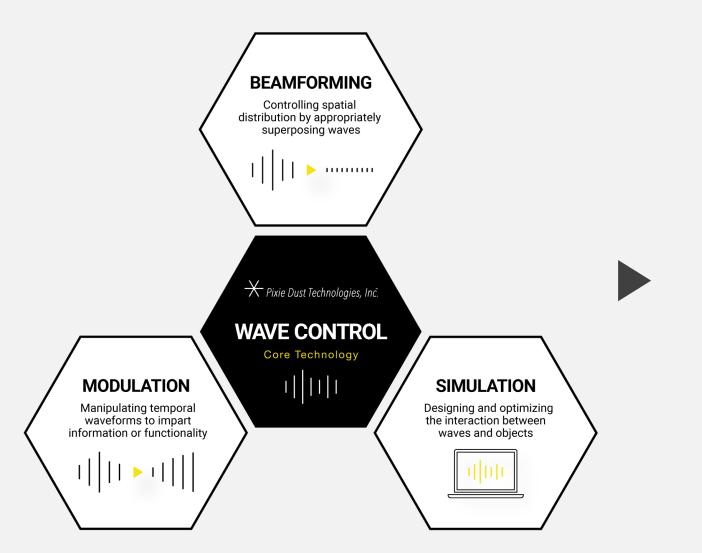
Using wave control technology, we tackle with social problems in Japan posed by population decline and population aging.

#### Population structure, dementia ratio, hard of hearing ratio of Japan





#### WHAT IS CONTROL?



#### Healthcare

Exploring the connection between waves and the human body to address unresolved challenges

#### Material

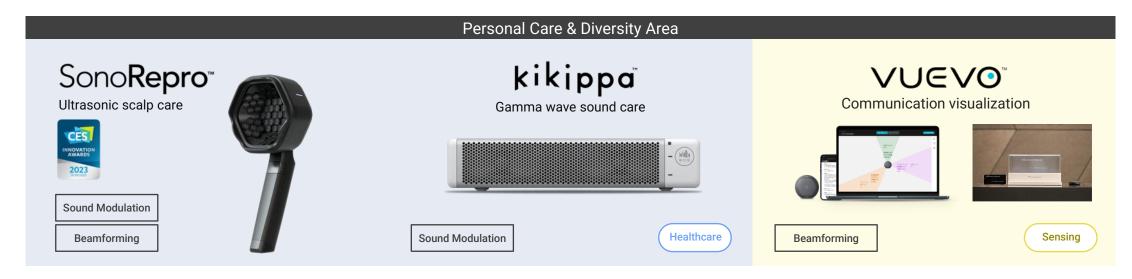
Breaking through the trade-offs of existing materials using metamaterial technology

## Sensing

Advancing digital transformation by collecting and utilizing 3D spatial sensor data

#### **BUSINESS AREA OF PRODUCTS**

Combining our unique wave control technology and computer science, we develop the following products and services.





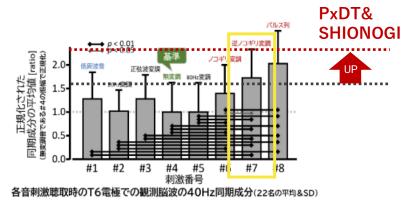
# **BUSINESS MODEL** (ex. gamma wave sound)

Using wave control technology, we are defying dementia.

#### **Technology development**

Inspired by research findings that stimulation with sound and light in the gamma wave frequency (40 Hz) can inhibit the worsening of dementia in mice [1] and humans [2], We have commenced the development of sound that can be comfortably integrated into daily life, in collaboration with Shionogi & Co., Ltd.

We have experimentally confirmed that our "gamma wave sound" induces a 40Hz brainwave synchronization in the human brain (see the figure below).



[1] Martorell, A. J. et al. Cell 177, 256-271.e22 (2019) [2] Chan, D. et al. PLOS ONE 17, e0278412 (2022).

[3] Nagatani, Y. et al. 11th Annu. Meet. Jpn. Soc. Dement. Prev., 206 (2022).



On April 18, 2023, PxDT and Shionogi announced their collaboration with four partner companies to advance initiatives aimed at dementia prevention and cognitive function improvement using "gamma wave sound" within each company's business domain.



# **BUSINESS MODEL** (ex. gamma wave sound)

We are continuously implementing strategies for the social implementation of gamma wave sound.

#### kikippa: gamma wave sound care

On April 18, 2023, PxDT and Shionogi Healthcare announced the launch of "kikippa," a TV speaker that allows one to naturally listen to gamma wave sound in daily life.





#### **PRODUCT ACCOLADES**

We believe that our core technology, wave control technology, and diverse product portfolio differentiate our company from many competitors.





Patent registration



Patent application



Design registration



2024 Clio Health, 2024 D&AD Award



Winner of CES 2024 Innovation Awards



2022 Received the "Intellectual Property Achievement Award, Minister of Economy, Trade and Industry Award" in 2022



Winner of CES 2023 Innovation Awards



"Yoichi Ochiai x Japan Phil Project" Cannes Lions 2019 Winner of multiple awards including the 72nd Dentsu Advertising Award



## **MAIN TOPICS**

1 kikippa ranked First on the Rakuten speaker ranking as well as sound bar ranking

iwasemi SQ-α has been ranked First on Amazon's best-selling rankings

3 VUEVO Display launched

KOTOWARI v360 launched

5 VUEVO embraced by Japanese Ministry of Health, Labor and Welfare

# **SUMMARY FINANCIAL RESULT**

Balance Sheet					
		(Thousand yen)			
	2023/4	2024/4			
Assets					
Cash and cash equivalents	2,135,513	1,607,763			
Total current assets	3,044,415	2,235,135			
Property and equipment, net	507,778	576,868			
Operating lease right-of-use assets, net	46,046	410,411			
Total assets	3,717,654	3,382,601			
Liabilities and stockholders' equity  Current portion of operating lease liabilities	56,527	105,230			
Current portion of long-term borrowings	1,013,332	13,332			
Total current liabilities	1,766,623	458,255			
Long-term borrowings, net of current portion	21,113	1,007,781			
Operating lease liabilities, net of current portion	5,956	396,199			
Total liabilities	1,819,228	1,957,104			
Total stockholders' equity	1,898,426	1,425,497			
Total liabilities and stockholders' equity	3,717,654	3,382,601			

Income Statement						
		(Thousand yen)				
	2023/4	2024/4				
Service	521,763	469,867				
Products	182,949	523,154				
Total revenue	704,712	993,021				
Total cost and expenses	2,685,253	3,000,759				
Loss from operations	(1,980,541)	(2,007,738)				
Loss before income taxes	(1,965,491)	(1,974,536)				
Net loss	(1,965,491)	(1,974,536)				

Cashflow Statement								
	(Thousand yer							
	2023/4	2024/4						
Net cash used in operating activities	(1,813,442)	(2,090,202)						
Net cash used in investing activities	(89,284)	(183,911)						
Net cash provided by financing activities	2,242,276	1,711,752						
Net increase in cash and cash equivalents	339,550	(527,750)						
Cash and cash equivalents at beginning of period	1,795,963	2,135,513						
Cash and cash equivalents at end of period	2,135,513	1,607,763						

# **RESULT BY BUSINESS**

Personal Care & Diversity Area									
SonoRepro				kikippa			VUEVO		
	2023/4	2024/4		2023/4	2024/4		2023/4	2024/4	
Number of products sold	1,432	1,545	Revenue (1,000 yen)	170,008	386,795	Revenue (1,000 yen)	89,725	64,209	
Revenue (1,000 yen)	142,449	198,556							

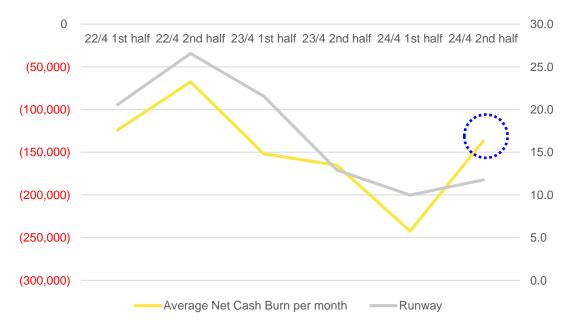
# Workspace & Digital Transformation Area)

iwasemi				KOTOWARI	
	2023/4	2024/4		2023/4	2024/4
Number of products sold	9,706	33,635	Revenue (1,000 yen)	122,386	166,427
Physical dimensions (m²)	3,802	13,424			
Revenue (1,000 yen)	57,440	130,768			

### **CASH BURN**

(Thousand yen)

	2022/4 1 <sup>st</sup> half	2022/4 2 <sup>nd</sup> half	2023/4 1 <sup>st</sup> half	2023/4 2 <sup>nd</sup> half	2024/4 1 <sup>st</sup> half	2024/4 2 <sup>nd</sup> half
Cash flows from operating activities:	-681,806	-393,520	-861,666	-951,776	-1,385,065	-705,137
Cash flows from investing activities:	-62,626	-12,076	-49,321	-39,963	-68,760	-115,151
Cash flows from financing activities:	231,485	-351,595	2,389,980	-147,704	1,698,030	13,722
FCF	-744,432	-405,596	-910,987	-991,739	-1,453,825	-820,288
Cash and cash equivalents at end of period	2,553,154	1,795,963	3,274,956	2,135,513	2,420,667	1,607,763
Runway (month)	20.6	26.6	21.6	12.9	10.0	11.8
Average Net Cash Burn per month	-124,072	-67,599	-151,831	-165,290	-242,304	-136,715



- Cash burn has touched a bottom to be approximately -137 million yen (-868 thousand USD) for the 2<sup>nd</sup> half (2023/11-2024/4) of fiscal year 2024/4.
- Runway is 11.8 months at the end of fiscal year 2024/4.

# **R&D PIPELINE** ( HEALTHCARE )

Content	Product	Research & Development	Business Development	Launched
Hair care	SonoRepro	✓	✓	✓
Beauty care (beautiful hair encouragement, skin care)	to be decided	✓		
Skin disease treatment	to be decided	✓		
Wound treatment	to be decided	✓		
Gamma wave sound care speaker	kikippa	✓	✓	✓
Gamma wave sound care (other than speakers)	to be decided	✓	✓	
Dementia care by sound	to be decided	✓		

# **R&D PIPELINE** ( MATERIAL )

Content	Product	Research & Development	Business Development	Launched
Sound absorption in offices	iwasemi (HX-α / SQ-α / RC-α)	✓	✓	1
Sound absorption outside the office	to be decided	✓		
Sound insulation in residences (Sound insulation structure allowing air to pass through but not sound)	to be decided	✓	<b>√</b>	
Sound insulation in non-residential areas	to be decided	✓	Advanced   ✓	

# **R&D PIPELINE** ( SENSING )

Content	Product	Research & Development	Business Development	Launched	
Reduction of man-hours in reinforcement inspection process	KOTOWARI v360	✓	✓	Advanced ✓	
Reduction of man-hours for processes other than reinforcement inspection	to be decided	✓			'
People flow analysis	KOTOWARI FAC+	✓	✓	<b>√</b>	
Indoor location information measurement	hackke	✓	✓	<b>✓</b>	
Hearing-impaired support and minutes creation	VUEVO (wireless microphone)	✓	✓	<b>√</b>	
Hearing-impaired support and next-generation communication	VUEVO (speech bubble glasses)	✓	✓	Advanced	
Simultaneous translation support	VUEVO (subtitle transparent display)	✓	✓	Advanced	

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# Sono Repro

Home ultrasonic scalp care device

#### Overview

SonoRepro is a scalp care device released in Japan in November 2022. The product was developed using non-contact vibration pressure stimulation using ultrasonic waves, which is one of our proprietary technologies. Resembling a shower head, users utilize it by positioning it over the intended area of the scalp.

#### **Provided value**

SonoRepro is intended for daily use. We conducted a clinical trial in collaboration with Anfa, a preventive medicine company, and demonstrated that non-contact vibratory pressure stimulation increases the proportion of hair in the anagen phase and reduces the proportion of hair in the telogen phase.

#### **Daily Care with Advanced Technology**

A large device using non-contact vibratory pressure stimulation has been introduced at D Clinic, which specializes in scalp/hair care, since 2021. SonoRepro has miniaturized this large device to enable full-fledged hair care at home.







# Sono**Repro**™

Home ultrasonic scalp care device

#### Sales

SonoRepro has multiple sales channels and is priced at 125,000 yen. Currently, the product is only available in Japan.

#### **Retail store**

Bic camera

b8ta



Yodobashi Camera



Tsutaya Books



高屋書店 TSUJANA 100KS

**EC site** Own EC site



Amazon, Rakuten etc.



**Lease** kikito, Rentio, airCloset Mall





Gamma wave sound care

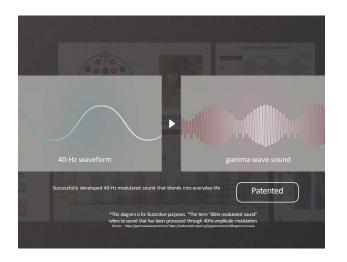


#### **Overview**

kikippa can be used as a desktop speaker with a functioning acoustic stimulation device, released in Japan in April 2023. kikippa uses our technology to amplify and modulate everyday sounds such as TV and radio broadcasts. Users can connect kikippa to a television set, radio, or other audio device using an audio cable. kikippa was developed in collaboration with Shionogi & Co., Ltd.

#### **Provided value**

kikippa has a dedicated website and LINE integration feature. Users can view their own device usage history, and caregivers can check the usage status of their care recipients.







# kikippa

Gamma wave sound care

#### Sales

kikippa is sold on Shionogi Healthcare's e-commerce site. Price model is (a) initial fee 45,000 yen and monthly fee 1,800 yen or (b) initial fee 90,000 yen and no monthly fee.

#### Shionogi Healthcare EC site



#### kikippa brochure





An innovative transcription service born from interviews with over 100 people with hearing loss (DHH)

#### Overview

VUEVO is a series of products designed to assist people who are hearing impaired. VUEVO microphones provide microphone-identified speaker direction and present utterances through an intuitive user interface on computers, tablets, and smartphones. VUEVO Glasses are wearable devices that superimpose speech content on the speaker in real space within the visual field of the user wearing glasses. VUEVO was developed in collaboration with Sumitomo Pharma Co., Ltd.

#### **Provided value**

Unlike hearing aids, VUEVO can display a transcription of the audio and show you who is speaking. This is especially useful for group conversations. People with complete hearing loss can also use VUEVO. Due to the complementary nature of the product's features, it can be used in conjunction with existing hearing aids.









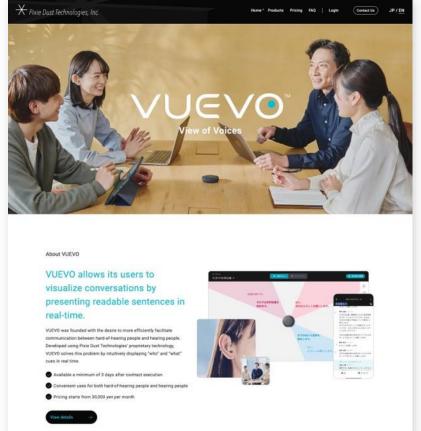
An innovative transcription service born from interviews with over 100 people with hearing loss (DHH)

#### **Sales**

PxDT sells and provides devices and monthly services to clients.

The device price is 55,000 yen, and the usage fee is 30,000 yen per month. The initial setup fee is 100,000 yen.

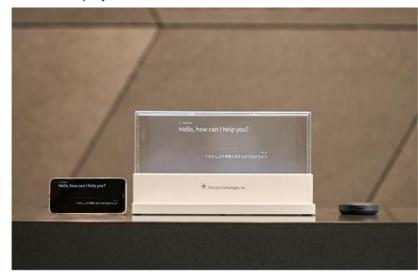
#### VUEVO sales website



#### **VUEVO** leaflet



#### **VUEVO** Display



# IMBEWI

#### Paradigm shift from materials to structures

#### Overview

iwasemi is a product series of sound-absorbing materials utilizing acoustic metamaterials designed with our proprietary technology. Advancements in computer performance and artificial intelligence have enabled large-scale simulations to be conducted at high speeds. Leveraging these technological resources, we developed a new acoustic metamaterial, leading to the release of multiple variations of iwasemi.

#### **Provided value**

While many existing sound-absorbing materials rely on the properties of the material itself, iwasemi absorbs sound through its unique structural design. Thanks to this feature, we were able to develop iwasemi, a lightweight sound-absorbing material offering a high level of design flexibility. It can be easily installed on an indoor wall using double-sided tape or magnets. If the resident moves, it can be moved to the new location and continue to be used.



# Sound absorbing metamaterial I M = S = M I B = M I RC-α Released in July 2022 Released in December 2022 Released in May 2023

#### Sound insulation metamaterial

Exploring the market with new technology



© Pixie Dust Technologies, Inc.

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#### Paradigm shift from materials to structures

#### Sales

iwasemi has multiple sales channels and is currently available in Japan. Additionally, in March 2023, we soft-launched a portion of iwasemi to prominent American professionals such as architecture and interior design firms. "iwasemi™ RC-α" won the CES 2024 Innovation Award in the "Home Appliances" category at the Eureka Park Japan Pavilion at CES 2024, held in Las Vegas, USA on January 9th to 12th, 2024.

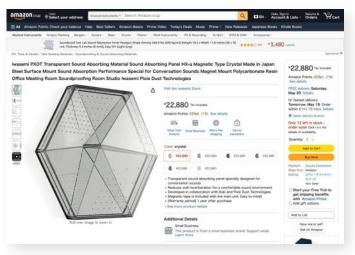
#### In-house direct sales



#### Sold by Itoki



#### Amazon Japan



# CES 2024 INDOMERE CES 2024 Innovation Awards

#### Orgatec Tokyo 2024 situation



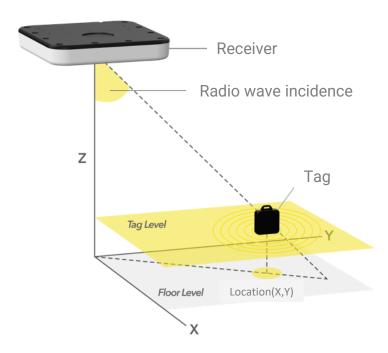


#### hackke

# Precise Location information change the world.

#### Overview

hackke is a technology that can detect location information of people and objects indoors with high precision and at a reasonable price. Compared to conventional low-precision Bluetooth positioning systems, the accuracy has been improved approximately 10 times, and positioning can be performed within 1 meter on average.



#### **Provided value**

The 1m accuracy enables the visualization of people and object movements, facilitating the analysis of data to provide useful suggestions. For instance, in offices, hackke can manage and visualize the usage status of available workstations. In manufacturing facilities, distribution warehouses, construction sites, and similar settings, it can assist with asset management and tracking man-hours, thereby enhancing production and work efficiency. It also aids in determining suitable locations for materials and equipment and implementing security measures.









Man-hour tally



Flow line analysis



Usage analysis

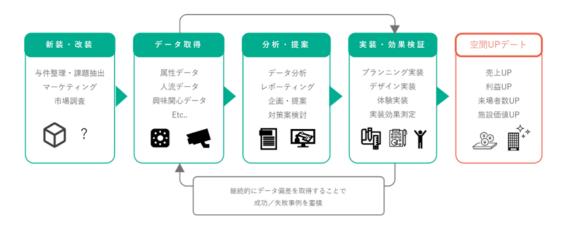


#### Overview

By acquiring, storing, and utilizing spatial data such as video data and point cloud data, KOTOWARI handles events that occur in space as digital data, and solves various issues related to space creation through applications that comprehensively analyze them.

#### Sales

We have started providing FAC+ (Factas), a service that combines spatial data analysis and design to maximize spatial value. This service aims to solve problems for business operators and further improve the value of the experience for end users by combining quantitative data with the planning and design of space creation, which has traditionally been done based on sensitivity and sense.



#### **Provided value**

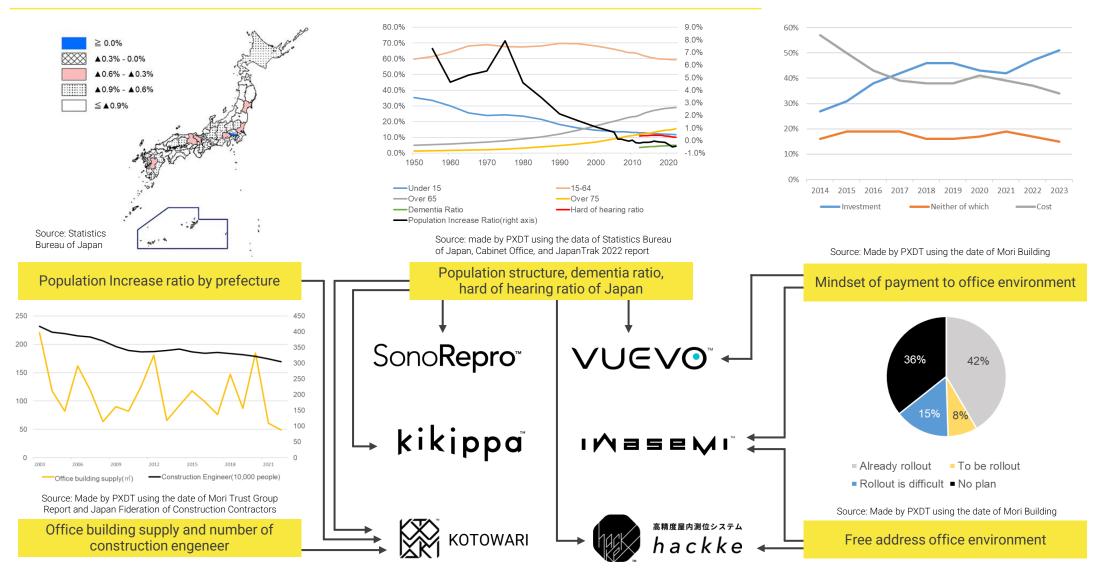
Space creation begins with "planning and design," engaging various stakeholders in each phase, including "construction," "use and operation," and "maintenance." By analyzing images captured by cameras, spatial design based on data can be achieved, thereby maximizing the value of the space. Furthermore, analyzing footage from within a construction site enables the monitoring of construction progress without the need for on-site visits, thus leveraging digital advancements to address labor shortages within the industry.

#### R&D

We are conducting research and development aimed at improving quality and productivity of confirmation work at construction sites. More specifically, we are developing a solution that allows us to remotely check the finished product by superimposing 3D models such as BIM with point cloud data from the site.



#### SOCIAL ENVIRONMENT RELATED WITH OUR PRODUCTS



#### **BOARD MEMBERS**



#### **Yoichi Ochiai** Representative Director, CEO / PxDT co-founder

He received a Ph.D. (Applied Computer Science) from the University of Tokyo in 2015. He has been an assistant professor at University of Tsukuba since 2015. His main research interest is human-computer interaction called "Digital Nature", which is an environment that fuses the digital with the analogue, blurring the boundary between nature and artifice. He has received numerous awards and accolades, including the 2015 World Technology Award (IT Hardware) from the World Technology Network, the 2020 Innovators Under 35 Japan by MIT Technology Review and the Future 50 by Project Management Institute. His laboratory conducts pioneering research in a wide range of fields including science, engineering, culture, art, vernacularity (practical considerations and local traditions), and computer science. For instance, in the field of ultrasound technology, they have proposed new computational methods for acoustic holography and are focusing on the development of acoustic levitation technology\*. Regarding AI, they began research on a localized version of the Large Language Model (LLM) as early as 2020, when it was still relatively unknown to the general public, and provided an application to assist ordinary people in generating novels\*\*. Recently, they have been actively researching abstract language objects (ALO) using the LLM\*\*\*. He has published numbers of academic papers on computer science, including generative AI, large language models, and computer-generated holograms. His recent representative publications are as follows:

- \*\*\*(1) Y. Ochiai, N. Kondo, T. Fushimi, "Towards Digital Nature: Bridging the Gap between Turing Machine Objects and Linguistic Objects in LLMMs for Universal Interaction of Object-Oriented Descriptions", arXiv:2304.04498 (2023)
- \*(2) T. Fushimi, K. Yamamoto, and Y. Ochiai, "Target Acoustic Field and Transducer State Optimization using Diff-PAT", AIP Advances 11, 125007 (2021)
- \*\*(3) H. Osone, J.-L. Lu, and Y. Ochiai. 2021. BunCho: Al Supported Story Co-Creation via Unsupervised Multitask Learning to Increase Writers' Creativity in Japanese. In CHI Conference on Human Factors in Computing Systems Extended Abstracts (CHI '21 Extended Abstracts), May 8-13, 2021, Yokohama, Japan.



#### **Taiichiro Murakami** Representative Director, COO/ PxDT co-founder

Completed master's course in biomaterials at the University of Tokyo. He supported industrialization of technologies focusing on R&D, digitization and new business strategies at Accenture Strategy Consulting Headquarters. Participated in launch of a new organization "Open Innovation Initiative" that evaluates startup companies' technologies and derive these technologies to large companies. Also participated in launch of an innovation base "Digital Hub." He serves as a committee member for the Ministry of Economy, Trade and Industry's "Guideline Formulation Committee on Contracts Between Large Enterprises and R&D Ventures," and also holds a concurrent position as an Executive Advisor for the general incorporated association, "Mitou Foundation."



#### Takayuki Hoshi Director, CRO / PxDT co-founder

He received a Ph.D (Information Science and Technology) from the University of Tokyo in 2008. He is an expert of wave control technology based on full use of physics and mathematics. He developed the world-first scannable prototype of airborne ultrasound tactile display in 2008 and he demonstrated the world-first 3D acoustic manipulation in 2013. He was awarded Significant Contribution to Science and Technology in 2014 by NISTEP, MEXT, Japan. He is currently working on social implementation of wave control technology through industry-academia collaboration and open innovation

#### CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This presentation includes forward looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, regarding, among other things, our plans, strategies and prospects -- both business and financial. Although we believe that our plans, intentions and expectations reflected in or suggested by these forward looking statements are reasonable, we cannot assure you that we will achieve or realize these plans, intentions or expectations. Forward looking statements are inherently subject to risks, uncertainties and assumptions. Many of the forward looking statements contained in this presentation may be identified by the use of forward looking words such as "believe," "expect," "anticipate," "should," "planned," "will," "may," "intend," "estimated," " and "potential," among others. Important factors that could cause actual results, developments, and business decisions to differ materially from those anticipated in these forward looking statements include, among other things: (i) our expectations regarding our revenue, expenses, and other operating results; (ii) our efforts to successfully develop and commercialize our technologies and related products; (iii) the implementation of our strategic plans for our business and products and product candidates; (iv) the size of the market opportunity for our products and product candidates and our ability to maximize those opportunities; (v) our ability to obtain and maintain any needed regulatory approval of our product candidates; (vi) our expectations regarding success in testing for our product candidates; (vii) the costs and success of our marketing efforts, and our ability to promote our brands; (viii) our expectations regarding our ability, and that of our manufacturers, to manufacture our products; (ix) our competitive position and the development of and projections relating to our competitors or our industry; (x) our ability to obtain adequate financing in the future on terms acceptable to us (including, without limitation, the effects of inflation and its associated impact on prevailing interest rates); (xi) our ability to consummate strategic transactions, which may include acquisitions, mergers, dispositions, or investments; (xii) our ability to identify and successfully enter into strategic collaborations in the future, and our assumptions regarding any potential revenue that we may generate thereunder; (xiii) our ability to exploit the intellectual property rights jointly owned with our collaborators in a manner beneficial to us; (xiv) our ability to obtain, maintain, protect, and enforce intellectual property protection for our technologies and related products and services, and the scope of such protection; (xv) our ability to operate our business without infringing, misappropriating, or otherwise violating the intellectual property or proprietary rights of third parties; (xvi) our ability to respond to national disasters, such as earthquakes and tsunamis, and to global pandemics, such as COVID-19; (xviii) the regulatory environment in which we operate; (xviii) our ability to attract and retain qualified key management and technical personnel; and (xix) our expectations regarding the time during which we will be an emerging growth company and a foreign private issuer. Before you invest, you should carefully read our Annual Report on Form 20-F for the fiscal year ended April 30, 2023, as the same may be amended from time to time, and our other filings with the SEC, including the factors described in the "RISK FACTORS" section of the Annual Report and other documents that we have filed, and will subsequently file, with the SEC to better understand the risks and uncertainties inherent in our business and industry and for more complete information about us and the offering. You may get these documents for free by visiting EDGAR on the SEC's website at www.sec.gov. These forward looking statements speak only as of the date of this presentation, and we do not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward looking statements to reflect any change in our expectations or any change in events, conditions or circumstances on which any such statement is based, except as required by law. All forward looking statements attributable to Pixie Dust Technologies, Inc. or a person acting on its behalf are expressly qualified in their entirety by this cautionary statement.

